

What is claimed is:

1. A method of connecting an IC to a circuit on a substrate having a ground plane, the method comprising:

depositing a layer of thick film dielectric on the substrate, the layer forming having a connection area with at least two projections forming at least one recess in the vicinity of a desired location for the IC;

curing the thick film dielectric so as to form a bevel around an edge thereof;

depositing a conductive layer on the bevel of the connection area of the thick film dielectric, the conductive layer being in electrical communication with the ground plane;

forming at least one ground pad on top of the thick film dielectric, the at least one pad being electrically connected to the conductive layer in a recesses on the connection area;

cutting through the substrate to form a cut-out;

mounting the IC in the cut-out;

connecting ground leads of the IC to the at least one ground pad.

2. The method, as set forth in claim 1, wherein the layer of thick film dielectric is comprised of multiple layers of thick film dielectric.

3. The method, as set forth in claim 1, wherein the layer of thick film dielectric is comprised of KQ material.

4. The method, as set forth in claim 1, wherein the conductive layer comprises gold.

5. The method, as set forth in claim 1, wherein the ground pad comprises gold.
6. The method, as set forth in claim 1, further comprising:

terminating transmission lines in the layer of thick film dielectric near the connection area; and

connecting leads of the IC to the transmission lines.
7. The method, as set forth in claim 6, further comprising:

forming the transmission line using one of the following geometries: stripline, microstrip, coaxial, coplanar waveguide, wire above ground, suspended microstrip, coupled microstrip, slabline, coupled stripline, trough line and a quasi-grounded co-planar waveguide.
8. The method as set forth in claim 1, wherein the step of cutting further comprises cutting through the area formed by the thick film dielectric so as to electrically isolate the at least one recess from the remainder of the area.
9. The method, as set forth in claim 1, wherein the step of cutting is performed so as to create a cutout that 1mil or less larger than the outside dimensions of the IC.
10. The method, as set forth in claim 1, wherein the step of mounting further comprises:

fabricating a base that supports the IC in the cutout wherein the top of the IC is level with the top of the layer of thick film dielectric.
11. A microcircuit comprising:

an IC;

a substrate having a cut out to receive the IC;

a ground plane formed on the substrate;

a thick film dielectric structure upon which is printed a plurality of transmission lines, the dielectric structure abutting the cut out with a connection area with at least two projections forming at least one recess, the recess having a conductive layer thereon, the conductive layer in electrical communication with the ground plane;

a conductive pad on top of the dielectric structure in electrical communication with the conductive layer in the recess; and

an electrical connection between the IC and the conductive pad grounding the IC.

12. A microcircuit, as set forth in claim 11, wherein the transmission lines have a geometry selected from a group comprising: stripline, microstrip, coaxial, coplanar waveguide, wire above ground, suspended microstrip, coupled microstrip, slabline, coupled stripline, trough line and a quasi-grounded co-planar waveguide.

13. A microcircuit, as set forth in claim 11, wherein the dielectric structure comprises a plurality of layers.

14. A microcircuit, as set forth in claim 11, wherein the dielectric structure is comprised of KQ material.

15. A microcircuit, as set forth in claim 11, wherein the conductive layer is comprised of gold.

16. A microcircuit, as set forth in claim 11, wherein at least one of the transmission lines terminate neat the connection area.

17. A microcircuit, as set forth in claim 11, wherein the dielectric area has at least three projections forming at least two isolated recesses.

18. A microcircuit, as set forth in claim 11, wherein the IC is secured in the cut out such that an edge of the IC is 1mil or less apart from an edge of the dielectric structure.

19. A microcircuit, as set forth in claim 11, further comprising:

a base to support the IC in the cut out, the base being wider or longer than the cut out and secured to the underside of the substrate.

20. A microcircuit, as set forth in claim 19, wherein the base supports the IC such that a top surface of the IC is level with the ground pads.